

**/ Descriptions**

TO-92          PNP          Silicon PNP transistor in a TO-92 Plastic Package.

**/ Features**

High breakdown voltage, high current, low saturation voltage.

**/ Applications**

Low frequency power amplifier applications.

**/ Equivalent Circuit**



**/ Pinning**



PIN1 Base          PIN 2 Collector          PIN 3 Emitter

**/ hFE Classifications & Marking**

h <sub>FE</sub> Classifications Symbol	D	E	F
h <sub>FE</sub> Range	60~120	100~200	160~320

## / Absolute Maximum Ratings(Ta=25 )

Parameter	Symbol	Rating	Unit	
Collector to Base Voltage	V <sub>CBO</sub>	2SA984	-60	V
		2SA984K	-100	
Collector to Emitter Voltage	V <sub>CEO</sub>	2SA984	-50	V
		2SA984K	-80	
Emitter to Base Voltage	V <sub>EBO</sub>	-5.0	V	
Collector Current - Continuous	I <sub>C</sub>	-500	mA	
Collector Current – Continuous(Pulse)	I <sub>CP</sub>	-800	mA	
Collector Power Dissipation	P <sub>C</sub>	600	mW	
Junction Temperature	T <sub>j</sub>	150		
Storage Temperature Range	T <sub>stg</sub>	-55 150		

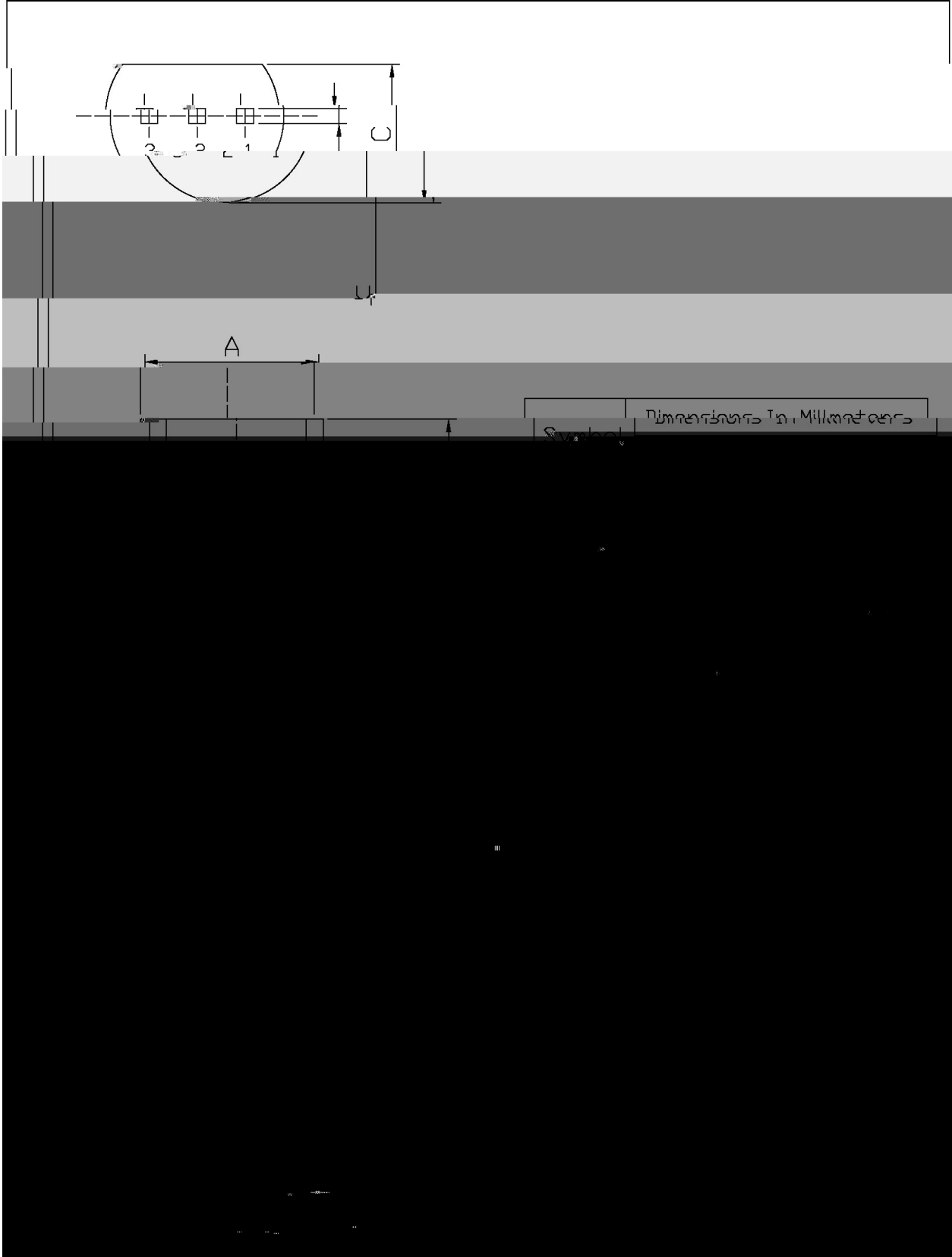
## / Electrical Characteristics(Ta=25 )

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V <sub>CBO</sub>	2SA984	I <sub>C</sub> =-10μA I <sub>E</sub> =0			V
		2SA984K				
Collector to Emitter Breakdown Voltage	V <sub>CEO</sub>	2SA984	I <sub>C</sub> =-1.0mA R <sub>BE</sub> =			V
		2SA984K				
Emitter to Base Breakdown Voltage	V <sub>EBO</sub>	I <sub>E</sub> =-10μA I <sub>C</sub> =0	-5.0			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =-40V I <sub>E</sub> =0			-1.0	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =-4.0V I <sub>C</sub> =0			-1.0	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =-5.0V I <sub>C</sub> =-50mA	60		320	
	h <sub>FE(2)</sub>	V <sub>CE</sub> =-5.0V I <sub>C</sub> =-400mA	35			
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =-400mA I <sub>B</sub> =-40mA		-0.25	-0.6	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =-400mA I <sub>B</sub> =-40mA		-0.9	-1.2	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =-10V I <sub>C</sub> =-10mA		120		MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V f=1.0MHz		9.0		pF

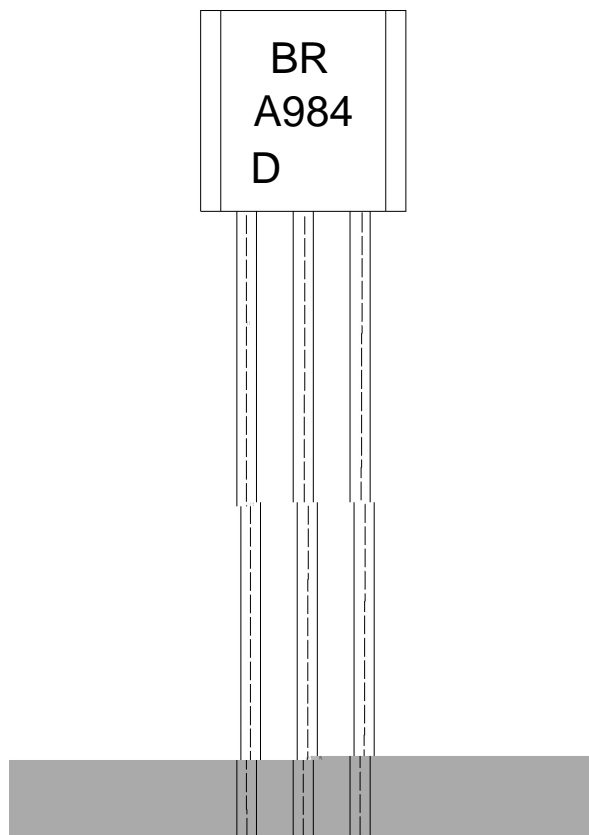
/ Package Dimensions

T0-92

Unit: mm



/ Marking Instructions



BR:

A984

D:  $h_{FE}$

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Note:

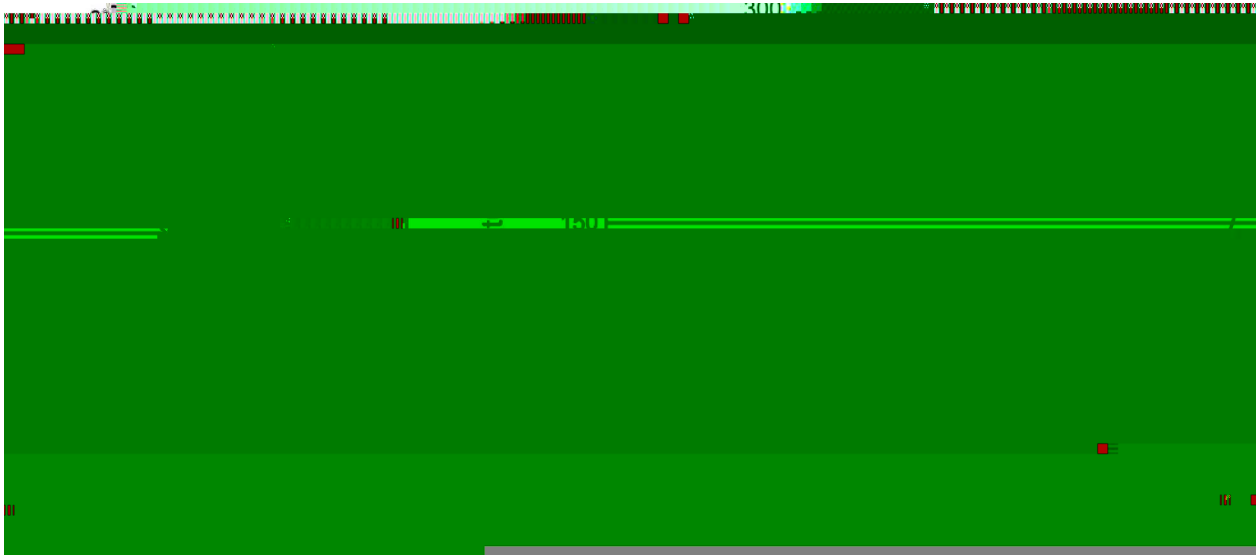
BR: Company Code.

A984: Product Type.

D:  $h_{FE}$  Classifications Symbol

\*\*\*\*: Lot No. Code, code change with Lot No.

( ) / Temperature Profile for Dip Soldering(Pb-Free)



1	25	150	60	90sec;	Note:	1.Preheating:25~150 , Time:60~90sec.
2	255±5		5±0.5sec;		2.Peak Temp.:255±5 , Duration:5±0.5sec.	
3		2	10 /sec.		3. Cooling Speed: 2~10 /sec.	

/ Resistance to Soldering Heat Test Conditions

270±5                      10±1 sec.                      Temp:270±5                      Time:10±1 sec

/ Packaging SPEC.

/ BULK

dBW13q4y-